

## REMARKS

This Response is submitted in reply to the Non-final Office Action mailed September 2, 2005. Claims 1-51 are pending in this application. Claims 34, 49, and 50 have been amended. Claims 1, 19, 34, and 50 are in independent form. No new matter has been added.

The Commissioner is hereby authorized to charge any fees which may be required in the Application to Deposit Account No. 02-1818. Please reference number 115246-997 if such a withdrawal is made.

### Objections to the Specification

The Office Action objected to the paragraph numbering included with the Abstract. Appropriate correction has been made.

### Claim Objections

Claims 34, 49, and 50 were objected to due to various informalities. Appropriate correction has been made.

### Claim rejections under 35 U.S.C. §103(a)

Each of the independent claims was rejected under 35 U.S.C. §103(a) as being unpatentable over *Voit* (US Patent 6,829,250) in combination with *Alspaugh* (US Publication 2004/0213189). Applicants respectfully traverse these rejections and all of the associated dependant claim rejections. Favorable reconsideration is respectfully requested.

Specifically, Claim 1 recites “wherein said wireless hub has a direct access to queue utilization levels within said WDSLAM” (emphasis added). The Office Action indicates that *Voit* teaches this feature at column 5, lines 1-9. That section of *Voit* states:

For a given subscriber, the carrier therefore provisions an ATM permanent virtual circuit from the ATU-R 203 to the gateway router 125. The carrier programs one or more nodes along the path of that logical circuit, particularly the DSLAM 111, to regulate traffic on the virtual circuit to the upstream and downstream rates corresponding to the grade of service to which the particular customer subscribers. All data traffic for the subscriber goes over the entire length of the permanent virtual circuit, and most if not all nodes along that path limit that traffic to the rates of the subscription as defined in the provisioning data. (emphasis added)

*Voit* teaches that each node (e.g., the hub and the DSLAM) regulate their own data rates in order to limit the overall data rate to a level paid for by the subscriber. There is no mention in *Voit* about the hub having direct access to queue utilization levels within the DSLAM. *Alspaugh* also fails to teach this feature.

Claims 19, 34 (as amended), and 50 recite transmitting status information of queue utilization levels from the DSLAM to the hub. The Office Action indicates that *Voit* teaches this feature at column 16, lines 1-19. That section of *Voit* states:

A number of implementations of the modems have used carrierless amplitude phase (CAP) modulation. Most current xDSL modems, however, utilize a discrete multi-tone (DMT) approach.

Returning to the discussion of the CO 11, the structure and operation of each DSLAM 17 is essentially the same as those of the DSLAM 111 in the embodiment of FIG. 9, except that the control functionality of the DSLAM 17 is somewhat different. The DSLAM 17 controls the ATU-Cs to implement a rate-adaptive ADSL service, to adapt operations so as to maximize data rates for the communications over the individual subscriber lines. Essentially, the ATU-Cs and ATU-Rs signal each other over the lines to synchronize their modes of operation at parameter settings, which achieve optimum data throughput. Also, the DSLAM 17 does not need to monitor or limit the line rates, but instead relies on the rate-adaptive control algorithm to maximize the rates achieved over the ADSL circuits or provide rate-shaping for the ATM virtual circuits. Other network elements limit rates, where necessary. (emphasis added)

*Voit* teaches that synchronization signals are exchanged. Synchronization signals are commonly exchange between communications devices. However, *Voit* does not discuss sending status information associated with queue utilization levels from the DSLAM to the hub. If any status information associated with queue utilization levels is maintained by the DSLAM of *Voit*, it apparently is used internally by the DSLAM to managed its queue.

Alternatively, the Office Action indicates that this feature is taught by *Voit* at column 9, line 55 to column 10, line 12. That section of *Voit* states:

To support the QoS requirements, a feature of the preferred embodiments involves certain queuing and tagging operations within the ATM switch. Essentially, the switch will maintain two or more queues for each permanent virtual circuit. The switch distinguishes the queues based on importance. As the switch

receives cell transmissions for transport over the virtual circuit to the customer premises, the switch will internally tag each cell as to its importance level and place the cell in the appropriate queue. The switch may implement any one of a number of different algorithms to select and transmit cells from the various queues. The particular algorithm is selected to implement QoS in conformance with the subscriber's service level agreement with the carrier and/or agreements between the carrier and the vertical services providers.

Within the one virtual circuit assigned to the individual subscriber, the invention actually provides multiple tiers of service, preferably with multiple levels of QoS. Also, at different sections along the virtual circuit "pipe," the network provides different levels of rate shaping. All layers and all services are available at the home, but different services receive different treatments in the network conforming to the different levels of QoS. The inventive approach, however, does not require each subscriber to have multiple virtual circuits.

Again, Voit merely teaches individual nodes maintaining internal queues. There is no discussion here, or anywhere in *Voit*, that status information associated with queue utilization levels is transmitted from a DSLAM to a hub. *Alspaugh* also fails to teach this feature.

Because the prior art fails to teach or suggest the independent claims as currently amended, Applicant submits that all of the rejections under 35 U.S.C. §103(a) are improper and should be withdrawn.

## Conclusion

In light of the above amendments and remarks, Applicant submits that all claims are in condition for allowance and request that a timely Notice of Allowance be issued in this case. .

Respectfully submitted,

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